

Antenna Report

Rev.04

Radiation Characteristics of antenna located into a Host Platform

Antenna Peak Gain and VSWR w/ cable loss (dB) ¹														2400 ~ 2483.5 MHz 5150-5250 MHz 5250-5350 MHz 5470-5725 MHz 5725-5850 MHz 5850-5895 MHz 5925-6425 MHz 6425-6525 MHz 6525-6875 MHz 6875-7125 MHz										Copyright Notice: The value of this generated ID is used to be changed along time for the ID control. The value ID will be the generated in this file only.			
Antenna Cycle	OEM	ODM	Host Platform Name	Host Platform Type	Intel-Platform	Antenna- Manufacturer	Antenna- Type	Antenna-PM	Antenna Main/Aux	SAR min separation (mm)	WiFi-Module	Applicable Certification	SAR FCC-BRED C1PC Apply	Antenna Metrics ²	2.4 GHz	5.2 GHz	5.3 GHz	5.6 GHz	5.8 GHz	5.9 GHz	6.2 GHz	6.5 GHz	6.7 GHz	7.0 GHz	Applicant e-mail	Application Date	UniqueID
202505	DELL	COMPAL	Blackhawk	Convertible PC	YES	AWAN	PIFA	DC330031MOL (AYPEV-200114)	Main/Ant.2 (w/o bumper)	AX211				Gain	1.99	1.66	1.85	2.81	2.84	2.31	2.87	1.30	2.85	2.85			202505-162359
202505	DELL	COMPAL	Blackhawk	Convertible PC	YES	AWAN	PIFA	DC330031MOL (AYPEV-200114)	Aux/Ant.1 (w/o bumper)	AX211	0	0	Gain	2.66	0.68	0.88	2.39	2.39	1.62	1.47	1.36	1.36	0.77	0	1900-01-00	202505-162359	
202505	DELL	COMPAL	Blackhawk	Convertible PC	YES	AWAN	PIFA	DC330031MOL(AYPEV-200114)	Main/Ant.2 (w/o bumper)	AX211			VSWR	1.44	2.00	1.50	1.62	1.39	1.32	1.47	1.59	1.66	2.00	0	1900-01-00	202505-162359	
202505	DELL	COMPAL	Blackhawk	Convertible PC	YES	AWAN	PIFA	DC330031MOL(AYPEV-200114)	Aux/Ant.1 (w/o bumper)	AX211	0	0	VSWR	1.38	1.78	1.82	1.70	1.63	1.55	1.74	1.64	1.57	1.70	0	1900-01-00	202505-162359	

1. 3D Antenna Peak Gain required being test in system basis

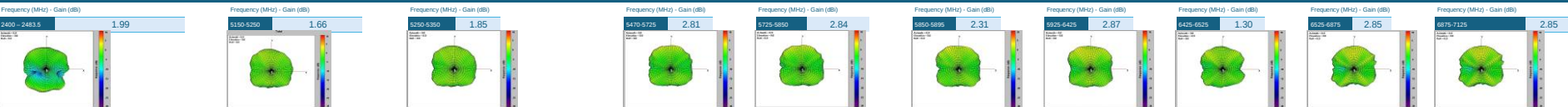
2. DEM/COM and platform antenna vendors should try to adapt the antenna with a VSWR of 2 (S11<-10dB) for a good antenna matching, and if not possible, try to achieve a VSWR of 3 (S11<-6dB) for a medium antenna matching.

Intel Reference Antenna Gain and Type

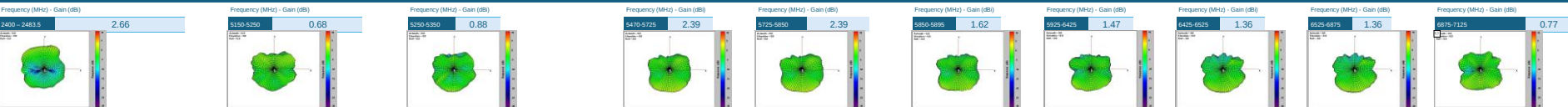
Antenna Type	Application Module	2.4 GHz	5.2 GHz	5.3 GHz	5.6 GHz	5.8 GHz	5.9 GHz	6.2 GHz	6.5GHz	6.7 GHz	7.0 GHz
PIFAS	Design Reference	3.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
PIFAE	For WiFi 6E and earlier modules	3.24	2.64	3.73	4.77	4.50	4.72	4.83	4.30	5.37	5.59
PIFA7	From WiFi 7 modules	2.95	5.11	4.55	5.15	5.13	4.45	5.02	5.00	4.96	4.96
Dipole	For WiFi 6E and earlier	2.89	2.92	3.19	4.41	4.22	4.22	4.83	4.30	4.49	5.34
Dipole7	From WiFi 7	2.95	4.03	4.13	5.15	5.13	4.45	5.02	4.71	4.43	4.96
Monopole	From WiFi 7	2.83	4.57	4.44	4.95	4.95	4.43	4.87	4.91	4.91	4.79

3D Peak Antenna gain should be equal or greater than -2 dB. If a host integrator plans to use a lower gain antenna of the same type, additional CBP(FCC/EDT/EU) testing need to be performed while the module is installed in the host.

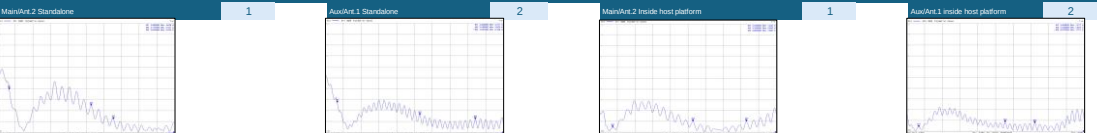
Max Antenna 3D Radiation Pattern - Main Antenna / Ant.2



Max Antenna 3D Radiation Pattern - Aux Antenna / Ant.1



Antenna VSWR data plot inside and outside a host Platform (standalone)



Maximum VSWR level required by the Wi-Fi module vendor to ensure proper antenna matching is 2 (S11 < -10dB)

Applicable limit per antenna type and country cert										Selected Cert:	
2.4 GHz	5.2 GHz	5.3 GHz	5.6 GHz	5.8 GHz	5.9 GHz	6.2 GHz	6.5GHz	6.7 GHz	7.0 GHz	0	
Main/Ant. 2	PIFA	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	
Aux/Ant. 1	PIFA	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	